Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-14. (Canceled).

15. (Currently amended) A method of treating cells present in a mammal, said method comprising administering to said cells ~~a molecule comprising~~ a polyamide nucleic acid oligomer under conditions wherein said polyamide nucleic acid oligomer ~~molecule~~ engenders a biological response in a sequence specific manner, wherein the backbone linkages of said polyamide nucleic acid oligomer are neutral amide backbone linkages, wherein said polyamide nucleic acid oligomer contains a sequence complementary to a target nucleic acid present in said mammal, wherein said biological response is associated with said target nucleic acid, and wherein said administration is an extracranial administration.

16. (Previously presented) The method of claim 15, wherein said biological response is characterized by a physiological change in said mammal.

17. (Previously presented) The method of claim 15, wherein said method further comprises detecting said biological response.

18. (Previously presented) The method of claim 15, wherein said target sequence comprises at least a portion of a coding strand of DNA within said cell, wherein said portion regulates, or is a template for, synthesis of an RNA molecule.

19. (Previously presented) The method of claim 18, wherein said RNA molecule encodes a polypeptide.

20. (Previously presented) The method of claim 15, wherein said target sequence comprises RNA that regulates expression of or encodes a polypeptide.

21. (Previously presented) The method of claim 15, wherein said biological response is a modification of polypeptide expression.

22. (Previously presented) The method of claim 21, wherein said modification is a reduction in polypeptide expression.

23. (Previously presented) The method of claim 15, wherein said oligomer is carrier-free.

24. (Previously presented) The method of claim 15, wherein said oligomer crosses a blood-brain barrier of said mammal.

25. (Previously presented) The method of claim 15, wherein said extracranial administration is an intraperitoneal administration.

26. (Previously presented) The method of claim 15, wherein said cell is a nervous system cell.